posterior margins, and a dorsal papilla, which is sometimes median-dorsal and sometimes more or less closely approximated to the anterior papilla.

*5. *Outer blade of jaw without* accessory minor tooth.

6. *Generative aperture* placed immediately *behind* the last pair of legs.

7. *Receptacula seminis* present.

8. *Embryos in all stages of development* may occur in the uteri of one individual.

III. *Male* (peculiar features) :—

1. *Length* 15 millim.

2. *Twenty-two* pairs of claw-bearing appendages.

3. *Generative aperture* placed at the end of a relatively long, backwardly directed, conical papilla, immediately behind the last pair of legs.

IV. 1. The identification of the sex of the individuals with 22 pairs of legs was confirmed by dissection.

2. The probability of the constancy of the difference in the number of the legs of males and females was strengthened by the examination of the older embryos found in two of the females.

3. I hope shortly to publish an illustrated account of this interesting species.

XLVIII.—*On Two Subspecies of the Arctic Fox* (Canis lagopus). By G. E. H. Barrett-Hamilton and J. L. Bonhote.

A comparison of a set of Arctic Fox skulls brought back by Barrett-Hamilton from Kamtchatka and the Commander Islands with the series already in the British Museum collection has revealed the fact that the skulls of those foxes which inhabit the continent of Europe and Asia (and the Commander Islands) may be distinguished from those of Spitzbergen by their larger size and lesser proportionate breadth. It is therefore necessary, according to the custom now in vogue among naturalists, to distinguish the two subspecies by name, and we propose that the fox from Spitzbergen should be known as *Canis lagopus spitzbergenensis*, subsp. n., while the foxes of the mainland should be designated as *Canis lagopus typicus*.

The material at present available seems to establish the

* Nos. 3 to 5 apply to both sexes.

apparent identity of the Spitzbergen foxes with those of Iceland, Novaya Zemlya, and Greenland, since the measurements of skulls in the museums of Dundee and Cambridge, for the use of which we are indebted to the kindness of Professor D'Arcy W. Thompson, C.B., and of Mr. S. F. Harmer, show that the Iceland and some of the Greenland foxes belong also to a small race, which we are unable to distinguish from that which inhabits Spitzbergen. In Greenland it is interesting to note that both forms occur; and although the localities which accompany some of the skulls from that country are not as exact as we could wish, there is evidence to show that the ranges of the smaller and larger races meet somewhere in the neighbourhood of Davis Straits, and hence it seems possible that the foxes of the American mainland belong to a large race like that of the mainland of the Old World. This supposition is partly borne out by the presence in the British Museum collection of a large female skull from the Aleutian Islands (no. 91. 12. 18. 3). As, however, it is well known that Arctic foxes have been frequently turned down on the islands of the Aleutian chain, we do not think it advisable to give too much importance to this specimen.

At all events we have no specimens from the American mainland with which to compare our Old-World series, and hence it is only possible, in the present state of our knowledge, to distinguish two races, one of which—the larger—is found all round the Arctic portions of the Eurasian continent and on the Commander Islands, and probably also on the corresponding portions of North America, while the smaller race is confined to Spitzbergen, Iceland, and Greenland, meeting the larger race at Davis Straits.

We are not in a position to give any external differences whereby the two races may be distinguished, as the British Museum does not possess a series of skins of the Arctic Fox. It is probable, however, that such external differences exist.

The average total length of the series of skulls of the larger form which we have been able to examine is 134 millim., and of the smaller form only 126 millim., for males, the corresponding measurements of the skulls of female animals being 124 and 118 millim. respectively; so that the dimensions of males from Spitzbergen overlap those of females of the larger race.

The largest male skull of *C. lagopus typicus* (e coll. G. E. H. B.-H. no. 17) reaches a length of 140 millim., and the smallest (e coll. G. E. H. B.-H. no. 20) 130·5 millim.; both are from Kamtchatka. The largest Spitzbergen male which

we have examined (B. M. coll. no. 96. 9. 23. 5) reaches a total length of only 127·5 millim. The females exhibit the same characters, but are smaller. In conclusion, it may be noted that we have examined specimens from Kamtchatka, the Aleutian and Commander Islands, Lapland, Norway, Spitzbergen, Iceland, and Greenland.

Dimensions of the type of *C. lagopus spitzbergenensis*, a female collected in Spitzbergen by Dr. J. W. Gregory (B. M. coll. no. 96. 9. 23. 3) :—Basal length 109 millim.; greatest length 118·5; greatest breadth 66; length of palate 56; length of nasals 38; length of lower jaw 86.

XLIX.—*A Review of the Species of the Genus* Hebomoia, *a Group of Pierine Butterflies.* By Arthur G. Butler, Ph.D., F.L.S., F.Z.S., &c.

This genus, of which the Museum collection now contains all the known forms, consists chiefly of a series of fairly well-defined geographical modifications, mostly inhabiting different islands, and consequently exhibiting a degree of constancy in their often slight distinctive characters which gives them some title to be regarded as diverse species. Several of these species were named by Wallace in 1863, in a paper published by him in the 'Journal of Entomology'; but in his "Revision of Oriental Pierinæ," published four years later in the 'Transactions of the Entomological Society,' he ignored all but two of them, not even quoting the names which he had given, in his synonymy.

It has been generally considered that one species of *Hebomoia* is distributed over the whole of India, Burma, China, and Ceylon; but a study of our present fine series has convinced me that this is not correct, inasmuch as the forms of Northern and Southern India differ quite as much as typical *H. glaucippe* does from its representative forms in some of the islands.

The seasonal forms of *Hebomoia* do not seem to be very strongly defined even on the Continent, and probably in the insular species they are unrepresented.

I. *H. glaucippe* group.

Wings above milky white, rarely tinted towards the borders with brimstone-yellow: primaries of males with a broad triangular orange apical patch, broadly bordered externally and,